

HISTORY OF THE COLLEGE CURRICULUM OF MIAMI UNIVERSITY.

INTRODUCTION.

In the development of the Miami University curriculum during the nineteenth century the two most prominent motives were (1) the maintenance of the required classical course for the Bachelor of Arts degree and (2) the development of a modern scientific course to meet practical demands. Strange to say these two motives conflicted very little. On the other hand the attempt to modernize the Bachelor of Arts course by substituting modern languages for Greek was an almost constant source of controversy down to the nineties. Consequently the development of modern language instruction was the largest issue in the expansion of the curriculum, and it has been described at length.

The question of election of studies (other than the languages) played very little part before 1873 because of the small number of departments. The school was closed from 1873 to 1885. After the reopening in 1885, the amount of election permitted increased proportionately to the increase in departments and teaching staff.

Before 1870, changes in the course of study were commonly initiated by the Board of Trustees and always very thoroughly discussed by them. Since the nineties such changes have been arranged almost entirely by the faculty. In the minutes of the Trustees the social reasons for changes advocated are usually presented at length, hence they are a valuable source of educational history. The volume and page references for important data are indicated throughout the following discussion.

Note on the History of Miami University. Ohio maintains three state universities of which Miami is one. It is located at Oxford, forty miles from Cincinnati. Miami University was established by the Legislature of Ohio in 1809, but did not receive liberal support from the state until the nineties. As a consequence it was closed from 1873 to 1885. In 1896 the Legislature made provision for its support by annual tax. The income from this and other sources has made possible in the last few years a very rapid material and academic development. The Liberal Arts College was opened in 1824 and down to the Civil War was one the strongest colleges in the West. There was a decline following the war but it now ranks as one of the leading institutions of its kind in the Mississippi valley.

I. THE TRADITIONAL BACHELOR OF ARTS COURSE; CULTURAL, DISCIPLINARY, AND PROFESSIONAL.

The maintenance of the traditional course leading to the Bachelor of Arts degree and requiring the study of both Latin and Greek, constituted the chief educational activity of Miami to the closing in 1873. Some of the questions that will be discussed in tracing the development during this period are: 1. What was the purpose of students taking this course; to what careers did it lead? 2. What was the educational philosophy at the basis of it? 3. What were the possibilities of enriching it or making it more flexible? 4. What difficulties were encountered in maintaining it? 5. What important attempts were made to modify it?

1. PURPOSE OF STUDENTS TAKING THE TRADITIONAL A. B COURSE; PROFESSIONAL.

The student's purpose in coming to Miami may be inferred from the career to which his education led. Considered from this standpoint his education at Miami was primarily a preparation for one of the learned professions. This is evident from the professions of graduates given in the triennial catalogue of 1851,

GRADUATES TO 1851

Ministers of the Gospel..	149	Whole number.....	441
Lawyers.....	143	Deceased	69
Engaged in teaching....	56	Living	372

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To the ordinary serious college student of this early period, college graduation meant a step in the direction of preaching, teaching, or practicing law. Those intending to be farmers; merchants or manufacturers might take a "partial course" but were not likely to continue to graduation.

2. THEORETICAL PURPOSE OF A. B. COURSE; DISCIPLINARY.

The educational philosophy which formed the basis of the classical course was the idea of formal discipline, the development of the faculties, as opposed to acquiring information or developing

skill in practical affairs. This theory is so clearly stated in the catalogues, that I shall quote two statements of it. Three catalogues of President Junkin's administration (1841-1844) contain the following:

"The preceding course of studies exhibits the means we employ to discipline the mind in the various parts of its intellectual character. Our object—that is, our *leading* object, in carrying students over and through the above course, is not to communicate a large amount of knowledge. This we suppose, every sensible Educator understands to be a contingency and a minor matter; the grand design being to *discipline* the intellectual powers to regular systematic action; and thus to form habits of *thinking*, which will continue to bear the youth along, a *student* through all his future life. *Thinking* is one thing and *having thoughts* is quite a different matter."

This theory of the disciplining of the mind served as a valuable defense against those who demanded that the college course be modernized and that information of practical value and training in practical affairs be substituted for a study of the dead languages and abstract philosophy. The theory was used for this purpose by President Macmaster in the catalogue (1845) as follows:

"There is often a somewhat urgent demand, from some portions of the community, for the substitution, in place of certain parts of the existing course of study, of other branches, supposed to have a more immediate practical utility in reference to commercial and other business pursuits; which proceeds from a misconception of the object of academical education. This is—not the special instruction necessary to prepare for particular occupations—but the *mental discipline* of the student. The means adopted to effect this are *the old methods*, universally approved by all, in our country and elsewhere, who may be supposed to be the most competent to judge in the case, and tried by time which proves all things—the thorough and rigorous study of the mathematics and of the ancient classic languages, as a discipline preparing the student to comprehend the doctrines of physical science, and to receive the principles of moral philosophy, that may form him for the successful attainment of the great end of his being."

3. PRACTICAL POSSIBILITIES OF MODIFYING TRADITIONAL A. B. COURSE; LIMITED.

What possibilities were there of enriching the college course or of making it more flexible? The simplest answer to this is, such possibilities as might exist with a faculty of five or six men. Down to 1832 three professors constituted the faculty. From 1833 to the establishment of the Professorship of English Literature in 1868, the typical faculty consisted of five professors; this included the President who usually taught philosophy, and professors of Latin, Greek, Mathematics and Science. Sometimes a teacher of modern foreign languages was also employed but he usually proved a failure. It is a simple problem in mathematics to show that the entire instruction of four college classes and partial instruction of two preparatory classes by this small staff, necessitated limiting the course of study to a few subjects and allowing practically no election. More subjects might have been taught if the faculty had been content to give short courses from which but a smattering of the subject would be gotten.

4. DIFFICULTIES IN MAINTAINING TRADITIONAL A. B. COURSE UNALTERED; MODERN PRACTICAL DEMANDS; GREEK.

The difficulty of maintaining the traditional classical course was expressed by President Bishop in 1840 as follows: "The great difficulties with which we hitherto had to contend in making good Latin and Greek scholars in the West have been (1) 'The popular notion that an acquaintance with these languages is not essentially necessary to the improvement of the mind, or the preparing of a young man for the business of the world and, (2) that even if useful all the good can be derived in a few years. These difficulties still exist and exist in great force with some otherwise respectable portions of the community. But the current of popular opinion in all well informed circles is certainly now in opposition to both these notions.'" (Trustees I, p. 475.)

There were two main lines of influence tending to a modification of the prescribed classical course for the Bachelor of Arts degree. First, there was a social demand for training in English, mathematics and applied science to prepare for teaching, civil engineering and other practical pursuits. This difficulty

was met by developing an English Scientific Course which is described at length later. The traditional A. B. course was thus left intact.

Second, there was a strong demand from certain practical members of the Board of Trustees for the substitution of modern languages for Greek. The history of the teaching of modern languages at Miami and its failure during this early period is treated at length in a later section. A brief statement will suffice here. The incorporation of modern languages in the Bachelor of Arts course presented two different problems. In the first place it was often attempted without eliminating any of the older subjects. This involved only such a revision of the conceptions of a college education as to admit that the study of modern languages had some cultural or disciplinary value. This form of adjustment was often attempted at Miami and is described at length in the section on the teaching of modern language. Another method of incorporating modern language instruction involved its substitution in place of Greek. This required a more serious revision of the accepted notions. The unwillingness of the Board of Trustees to pursue this plan is stated in the following report made by a committee in 1851:

"There is no part of it (course of study) which we can recommend to be omitted, and we do not judge that a correct education of a young man, would be promoted by an enlargement of the plan, with a prolongation of the period of study. The difficulty with professors and students is fully and fairly to carry out the present course of study in the given time. To drop a part of the studies and to introduce others either by a part or by the whole of the class, would lead to consequences highly dangerous." (Trustees II, 458.) The first official suggestion for such a change, that I have found, came in 1852 from Mr. Anderson of the Board of Trustees. He presented an ordinance which declared the study of Greek to be no longer necessary for the A. B. degree and allowed the substitution of an equal proficiency in German and French. The ordinance was adopted notwithstanding the unfavorable attitude expressed by the committee the year before. (Trustees II, 506, 516). It is impossible to determine how satisfactory this would have been if the modern language instruction had been successful. The modern language teachers were inefficient and the subsequent

development was determined by this fact. The Trustees, finding that students were not held rigidly to the studies they had elected, passed a resolution requiring students to adhere to the election of Greek or a modern language when male, the faculty to keep a record of such elections. (1856, Trustees III, 141). Two years later the trustees expressed dissatisfaction with the faculty for failing to do this. (1858, Trustees III, 85). Finally, owing to the inefficiency and failure of the modern language teachers, the Trustees decided, by a vote of eleven to four, to repeal the ordinance permitting a substitution of French and German for Greek. (Trustees III, 161-194.) This occurred in 1858, six years after the adoption of the ordinance.

Some concession to the demand for flexibility was implied in a resolution adopted by the board in 1851, permitting those students who had chosen their professions for life "to pay more attention to those branches of study, that are more intimately connected with their profession than to some other branches more remotely connected therewith." Two years later (1853) the examination committee of the Board criticized the results of this ordinance and it was repealed. (Trustees III, 65, 69).

With the exception of the six year experiment permitting the substitution of modern languages for Greek, the only cases of substitution premitted before 1873 were such occasional instances as that mentioned above. Another case occurred in 1858 when the faculty voted, four to three, to permit eleven members of the Senior class who expected to study for the ministry to substitute Hebrew for the study of a modern language. (Faculty minutes, Oct. 1858, III, 151).

5. IMPORTANT REVISIONS OF THE TRADITIONAL A. B. COURSE BEFORE 1873.

Three prominent revisions of the course of study for the A. B. degree are noted in the catalogues and trustees' minutes. These revisions were (a) President Macmaster's in 1845, (b) President Stanton's in 1867 and (c) President Hepburn's in 1871.

(a) President MacMaster's Revision, 1845; No Important Changes.

The revision of the course of study under President Macmaster in 1845 was considered very important at that time,

but it is difficult to discover in it any essential modification. In the catalogue for 1845 the following statement appears: "The preceding course of study has been considerably extended beyond that of former years, by the introduction of several new subjects, and an increase in the amount of requisition in those before pursued." To provide for this increase the preparatory course was changed from a two- to a three-year course. This change in the preparatory years meant principally an increase in the amount of Latin and Greek, geography and chronology being the only new subjects. In the college work the revision meant principally more advanced Latin and Greek, the only other change that I could discover being more emphasis on history. Certainly there was no departure from the fundamental principle of a prescribed classical course.

(b) President Stanton's Revision, 1867; Effective Instruction in German and English.

The innovations in the course of study under President Stanton in 1867, are more evident than in President Macmaster's revision in 1845. These changes were concisely stated in the catalogue for 1867-8 as follows:

"Since issuing the last annual catalogue, the courses of study in the several Departments have undergone a thorough revision. They are now presented upon a scheme which exhibits considerable improvement. Some branches have been added which were not taught before with sufficient regularity, and the Faculty has been enlarged. Especially in the departments of the English Language and Literature, and of the modern Languages, provision is made for meeting a demand which the present times are constantly urging. The course in the Scientific Department has been extended and is made to rank with the Classical." While this course exhibits considerable modernizing in its inclusion of effective work in German and English, there was no departure from the traditional prescribed classical course (without election) for the A. B. degree.

(c) President Hepburn's Virginia Scheme, 1872; Did Not Permit Election of Studies For The A. B. Degree.

Even the University of Virginia scheme which President Hepburn induced the Board of Trustees to adopt in 1872 retained the traditional prescribed course for the A. B. degree. The

University of Virginia is often credited with originating the elective system in American colleges. As a matter of fact it was just as rigid in maintaining required courses for the degree as other colleges, but it was liberal in allowing students to pursue any subjects they cared to, at any time and in any order. The history of the experiment with this scheme at Miami will be described after the section on the provision of instruction for students who were not candidates for the Bachelor of Arts degree.

The University closed its doors in 1873, having made no essential departure from the traditional, completely required course for the A. B. degree but having a well established, high grade, parallel course for which the Bachelor of Science degree was given. The history of the development of this science course will now be traced.

II. PARTIAL COURSES TO MEET PRACTICAL DEMANDS; DEVELOPMENT OF THE BACHELOR OF SCIENCE COURSE.

In order to appreciate the necessity of providing higher instruction in colleges for students who did not desire to take the complete course leading to the Bachelor of Arts degree, one must keep in mind that the colleges were practically the only institutions providing any higher education before 1850. There were few opportunities for those who desired advanced training for engineering and other practical careers. Such exceptional opportunities existed at Rensselaer Polytechnic Institute founded, at Troy, New York in 1824, and at Union College, Schenectady New York, where a strong scientific course existed from about 1830; but were lacking in the West where colleges, however, were quite numerous.

There was a strong social demand for men trained in applied science, but the colleges did not provide such training as was needed, being primarily professional preparatory schools for ministers, lawyers and teachers. Consequently, the general public severely criticized the colleges for failing to adjust themselves to the needs of practical life, and the colleges finally began to make some concession to the practical demands and

open their doors to students who desired to take only those subjects which would benefit them in a practical way. The movement begun in this way, eventually developed into special Scientific Courses for which the degree of Bachelor of Science was given.

Miami provided for this class of students very shortly after it was started. The following outline shows the main stages in the development to the establishment of the Bachelor of Science degree in 1866:

1826-1850. No regular course was outlined in the catalogue, but studies were announced as substantially the same as those of the College classes excepting the ancient languages. The title varied as follows: 1826-1841, under President Bishop, it was called the "English Scientific Department"; 1841-1844, under President Junkin the students were listed as "Irregular Scientifics"; 1845-1850, under President Macmaster, it was called the "Partial Course".

1850-1872. A regular course of study covering three years and paralleling the classical course was provided; from 1850-1861, known as the "English Department and Normal School"; 1861-1867, as the "English and Scientific Course"; 1867-1871, known as the "Scientific Department". From 1855-1866, a parchment diploma was given for the completion of the course; 1866-1872, the degree of Bachelor of Science was given for completion of the prescribed three year course. This development will be described in detail below.

1. DEVELOPMENT OF THE ENGLISH SCIENTIFIC COURSE 1826-1850: IRREGULAR INSTRUCTION

A clear conception of the situation demanding such a course, and the reasons for providing it, may be gotten from the following statement printed in the catalogue of 1829:

"There is a large number of promising young men, who must act for themselves because they already support themselves, who do not consider that a full course, requiring six or seven years application, corresponds with their pecuniary resources, or with the particular spheres which they intend to occupy. Hence a partial course, equal to the end of the Freshman or Sophomore

year, or a scientific course without the study of the dead languages is the course which they choose. The good of the community requires that some arrangement should be made for this valuable class of young men. They are to be farmers and merchants and manufacturers, and legislators, and teachers of schools, and academies, and they are to give character to a great body of the next generation. It is therefore proposed to give from this time forward, at the end of every winter session, on application, an official certificate of standing and attainments, to those who have been or may be in this situation. The names of those to whom such a certificate may be given, shall be recorded on the Journals of the Trustees and Faculty, and published in the triennial catalogue. The leading requisitions for such a certificate will be, that the applicant have the literary attainments of the Sophomore year, or the whole mathematical and philosophical course."

The announcement of such a course was printed in all of the catalogues issued by President Bishop, but does not occur in those of President Junkin and Macmaster, although the names of students taking the course are given. The annual number of these students averaged about 18 or 19 from 1825 to 1850, seldom falling below 9 and never exceeding 38.

While the number of irregular students in attendance was never large the existence of the practical demands expressed by President Bishop in 1829 is constantly in evidence in the reports of the professors of mathematics and science. Thus in 1838, in the report of Professor McCracken of the Department of Mathematics and Civil Engineering, the following statement occurs: "The demand for young men to superintend the public works which are going on in the improvements of our country is greater than the supply. There is therefore a considerable rush of young men to college whose principal object is to prepare themselves for the department of engineering." (Trustees I, 419.)

In 1857 Professor McFarland described the situation in very nearly the same words: "Owing to the great demand of late years for Engineers, many young men wish to devote a considerable proportion of their time to the mathematical studies relating to engineering." (Trustees III, 154). The applications of Chemistry were emphasized by Professor Stoddard in 1849, in reporting a course of lectures on the application of Organic

Chemistry to Agriculture: "The intrinsic importance of the latter subject, and the fact that our country in general and especially the Western portion is essentially agricultural in its physical features, have induced the undersigned to devote yearly more attention to this relation of Chemistry." (Trustees II, 388.)

2. THE ENGLISH DEPARTMENT AND NORMAL SCHOOL, 1850— 1861: A REGULAR THREE YEAR COURSE.

The second stage in the development of a college course for students not candidates for the A. B. degree was reached in 1850. During the preceding period irregular instruction had been provided for such students, but in 1850 a regular three years course of study was organized to train for practical activities, particularly for teaching, with special emphasis on training in the use of the English language.

President Anderson proposed the scheme to members of the Board of Trustees and announced the probable establishment of such a course in the catalogue of 1850, as follows:

"The Board contemplate the establishment of a Department of English Literature, which will furnish a thorough education in English letters and science, to those who do not desire to take the College course. This Department too, proposes to embrace the whole Theory and Practice of Public Instruction, and thus become a Normal School for the State; and, indeed, more than an ordinary Normal School, for its members can have all the advantages of the lectures and experiments in the regular College classes. This measure will greatly extend the University's sphere of usefulness."

The reaction of the Board of Trustees upon President Anderson's suggestion was very favorable and they voted to establish the new "department of English Literature and the training of Professional teachers." (Trustees II, 423). Among other reasons given for favoring the project were these, (1) that teachers trained at Miami would be "feeders" for Miami, (2) the attention of the Legislature would be called to Miami as a possibility for Normal School appropriations.

The committee to whom the President's recommendation had been referred was especially vigorous in its denunciation of the neglect of the English tongue in American colleges. The

following are some of the statements made- "That any institution calling itself a University, and teaching all the dead languages and abstruse sciences should nevertheless omit to instruct (students) in their mother tongue, is one of these extraordinary instances of the blinding effects of habit and drowsy prejudices." A college graduate should be able to "appreciate and express, the beauties of the Classical English Language as well as of Greek, Latin and Hebrew—of Chaucer, Spencer, Marlow, Shakspeare, Milton and Dryden amongst our own poets, of Latimer, South, Barlow, Jerney Taylor, Bacon, Hooker, and Addison of our prose writers—as well as to chase out the roots of a Greek verb or idiom or to analyse the eloquence of Aristophanes, Horace, Demosthenes or Cicero." (Trustees II, 420).

The Board voted to secure a principal for the new department, to have full professional rank and to receive a salary of \$300.00 plus the fees of such students as belonged to the course. This position was abolished in 1860.

The registration of students in this organized course was larger than in the irregular work previously provided, the annual average being over 40 for the years 1851 to 1860. The character of these students was indicated in the following statement of the principal in his report for 1856: "Of the students the greater number was composed of old teachers endeavoring to qualify themselves more thoroughly, and of others about to enter the Teacher's profession; those of the remaining portion were seeking an English education to prepare them for business." (Trustees I II, 136).

The course of study of the "English Department and Normal School" was announced to contain three years of work. (Catalogue of 1851). This included three years of a study of English grammar, reading, composition, elocution and rhetoric; mathematics including arithmetic and book-keeping, algebra, geometry, trigonometry and mensuration, surveying and engineering; science including geography, geology and mineralogy, natural history and botany, natural philosophy and chemistry and physiology; historical studies including ancient and modern history, political economy and the history and Constitution of the United States; philosophical and religious subjects including logic, mental and moral philosophy, natural theology, evidences

of Christianity. Students in the Normal Course were permitted to take the modern languages also.

"A model school in which those preparing for teaching can have daily exercise in the art of teaching" was announced in the catalogue of 1853, as a part of the English department. The model school continued in existence until 1856, the catalogue for that year announcing that "the Model School, numbering, usually heretofore, from 15 to 25 has been suspended."

Graduation from the English Department and Normal School may have been contemplated when the course was established, but I found no record of it until 1855. In the catalogue for that year, after the description of the course of the "English Department and Normal School," there occurs this statement. "To those completing the studies mentioned above a diploma will be given." No graduates of this course are named in the catalogue of 1856, but in 1857 the names of five "Graduates of the Normal Department" follow the names of the Seniors in the regular college course. During the next four years the average annual number of graduates in this course was 5. These graduates were given recognition by having their names inserted in the lists of graduates contained in the triennial catalogues of 1861 and 1867.

3. THE ENGLISH AND SCIENTIFIC COURSE, 1861, LEADING TO THE DEGREE OF BACHELOR SCIENCE (1866).

The third stage in the development of a college course for students not candidates for the B. A. degree, was marked by a change in the name and emphasis of the three year special course, from the training of teachers to the giving of science instruction, and the recognition of the completion of such a course of study by conferring the degree of Bachelor of Science instead of the diploma of graduation previously given.

The "English Department and Normal School" continued under that name to 1861. In the catalogue for that year the name was changed to the "English and Scientific Course" and a new statement of the purpose of the course appeared. Concerning the former department the catalogues had stated that it was "designed to train up teachers for our Common Schools" in addition to giving a thorough English education. The object of the course under its new name was "to give a thorough English

and Scientific Education to those not wishing to take the regular College Course." To this end a distinct plan of study was prescribed. Concerning graduation, it was stated that "on completing the course prescribed, they (students) will continue to receive, as heretofore, a regular Diploma on parchment." The course of study was practically the same as that of the old Normal Course, including in a three year course nearly all the subjects of the regular college course, except the Latin and Greek.

The names "English and Normal Department" and "English and Scientific Department" continued to be used interchangeably: thus, in the catalogue of 1867, the names of the students in the course are given under the old title at the top of the page, and the number of students given under the new title at the bottom of the same page.

The degree of Bachelor of Science is first mentioned in the catalogue of 1866, the last one in which President Hall's name appears. In the description of the English and Scientific Department, instead of the statement that graduates will receive a diploma on parchment, it is stated that "on completing the course prescribed they will receive the Degree of Bachelor of Science."

All students in the University were classified as either "Classical" or "Scientific" in the catalogue for 1868; the Scientific students being ranked as Seniors, Juniors and Preparatory, following in each case the names of the corresponding classical students.

The English and Scientific course shared in the general reorganization of curricula which President Stanton inaugurated in 1867. Its name was changed to the "Scientific Department" and was very briefly characterized in the catalogue as follows: "The Scientific course covers, strictly, three years, and corresponds in rank with the higher classes of the Classical course. The Preparatory studies are the same as those required for a corresponding standing in the Classical course, with the exception of Latin and Greek." The course included about two years of Mathematics, from Trigonometry through Integral Calculus, three years of History and English Literature, two years of German, two years of Science, and two years of Philosophy. The only requirements for admission were English grammar, arithmetic, algebra and geometry.

The purposes of the original partial course of the thirties and forties, were provided for in the 1868 by allowing irregular students to take "optional or special courses" for which they were qualified. Seven students were registered for such work.

Thus in 1868, we find the culmination of the effort to provide high grade college instruction for students who did not care to take the traditional classical course leading to the B. A. degree. The development was continuous during the period of forty-two years from 1826 to 1868. At first the only provision made was to allow such students to pursue any courses they chose; in 1850 a definite prescribed three year course was established; in 1866 this was dignified by conferring upon its graduates the Bachelor of Science degree; and finally by the revision of the course under President Stanton in 1867, it became almost the equivalent of the last three years of the classical course with German in place of the classical languages. In the catalogue for 1871, the Seniors, Juniors, and Sophomores of the Scientific Course were distinguished from those of the classical course only by means of a slight mark after each name, showing how nearly complete the recognition of the course had become.

4 THE UNIVERSITY OF VIRGINIA SCHEME; 1872-1873; FREEDOM OF STUDY.

In April, 1872, the Board of Trustees adopted a plan of reorganization of the course of study, suggested by President Hepburn and patterned after the organization which had prevailed at the University of Virginia from 1825. This scheme was very prominent in the development of the universities and colleges of the South Atlantic States and is very important in the history of the American college. The short period during which the scheme was tried at Miami (1872-1873), was not sufficient to test its chances for success. Its main characteristics were stated in the catalogue of 1871-1872 as follows:

"The curriculum of the ordinary college has been abandoned for a system more in accordance with the educational movement of the day, and better adapted to the wants of the various classes of students seeking a liberal education."

"The following are some of the special features of the University in which it differs from other institutions of learning in the West. Independent Schools. The customary division into four classes with a compulsory course of studies is abolished, and for it is substituted the system of independent schools." These corresponded roughly to the various departments, Latin, Mathematics, etc. "Each school is divided into classes as the Professor in charge of it may deem advisable, and grants its own diploma to those who complete its course of studies." "Entire Liberty in the Choice of Studies. Any student may enter any school, or any class in a school, that his special tastes, his aims in life, or the wishes of his friends may lead him to prefer."

Degrees. Five different degrees were established. (1) Graduate of school (e. g. Latin or Mathematics), (2) Bachelor of Arts, (3) Bachelor of Literature, (4) Bachelor of Science, (5) Master of Arts. To receive any degree a student was required to graduate in certain schools and to pass certain special examinations for the degree. Ordinarily four years was required to secure the Bachelor of Arts degree, but a student might have secured it in three years which was the usual time required to secure the degree of Bachelor of Literature or of Science.

III. ADMINISTRATION OF THE CURRICULUM AFTER 1885.

When Miami closed its doors in 1873 it had reached that stage in the development of its curriculum, in which it was committed to maintaining a college course leading to a bachelor's degree other than the B. A. It had not, however, committed itself to any extent, to the election of studies other than the choice between two prescribed courses, and still maintained that the study of both Greek and Latin were prerequisite for the B. A. degree.

The development subsequent to the opening in 1885 may be studied from the following points of view; first, from the standpoint of the differentiation of degrees and second, from the standpoint of the quantity of prescribed and elective studies.

I. THE DIFFERENTIATION OF DEGREES.

The principal stages from the standpoint of the differentiation of degrees are the following:

1884 to 1888. Separate courses leading to the degree of B. A. and B. S. Latin required for B. A., but German could be substituted for Greek. The B. S. course had Science and modern languages in place of Greek and Latin.

1888 to 1893. Only one degree, the B. A. Latin required but French and German could be substituted for Greek. Five groups of electives.

1893 to 1901. Two degrees, B. A. and B. S. Two courses for B. A., first required Greek, Latin and German, the second omitted Greek but required Latin, German and French. Latin was not required for the B. S.

1901 to present. Only one degree, B. A. No college study of Latin or Greek required.

It will not be possible to discuss each of these stages in detail, but some of the main facts may be given.

(a) **The establishment of two degrees in 1884** was determined by the Board of Trustees which instructed its committee on the reopening of the University to construct a course of study which would include "a Classical and a Technological or Scientific Course" and be equal to those courses maintained at Princeton and Yale. The committee reported courses accordingly, the Scientific course having modern languages and Science in place of Greek and Latin of the classical course. (Trustees III, 623, 627-630.) In 1888 one student received the B. A. degree and one the B. S. The catalogues for 1885 to 1887 do not contain a clear statement concerning the Bachelor of Science degree but the trustees' minutes are clearer. Most students substituted German for Greek for the B. A. (Trustees IV, 35, 97.)

(b.) **The abolishing of the B. S. degree in 1888** occurred at the time of the complete reorganization of the University. This action was recommended by a committee of the Board of Trustees in these words. "that the Faculty be required to arrange such a course of study as will entitle every graduate to the degree of Bachelor of Arts." (Trustees IV, p. 115). Two years of college Latin were to be required of all but French and German could be substituted for Greek. (Trustees IV, p. 116). The studies of the Freshman and Sophomore years were

definitely prescribed. About half of the studies of the Junior and Senior years were prescribed; for the other half the student elected one of five groups, historical, linguistic, mathematical, physical-scientific, biological-scientific.

From the beginning, President Warfield was strongly opposed to this practice of granting the B. A. degree for work which did not include Greek, and the minutes of the Board of Trustees contain long communications from him and from the classical professors on this question. President Warfield's reports contain admirable discussions of his point of view, with a keen analysis of the conditions pertaining to the granting of degrees in Europe and the United States. (Trustees IV, 140, 181, 241.) The main points that the President made in his argument for the differentiation of degrees, are:

The necessity of protecting the classical course from decay. If the B. A. degree were granted only for the completion of the classical course, the desire to secure this most esteemed of Bachelor's degrees would stimulate students to take the classical course.

"In order to retain the support of the able and conservative alumni the old classical curriculum should be retained in its integrity, given the moral support of the faculty and insured in its position of precedence."

'On the other hand parents and students desiring a modern scientific course would be attracted by such a course leading to the B. S. degree.'

'The practice of giving the B. A. for a non-classical course prevails in only a few colleges. "Miami has been more radical than 90% of the institutions of the country."

'Differentiated degrees carry more definite meaning than the single degree.'

President Warfield finally succeeded in getting the Board of Trustees to direct him to lay the question of the scientific course before the Faculty for consideration, but here again he encountered difficulties. In his last report (1891, made after he had resigned to go to La Fayette) he said, "the Faculty were unable to reach a decision owing to radical difference of opinion." (Trustees IV, 241).

The faculty continued to discuss the question of differentiating degrees and in June 1893, President Thompson reported that a

parallel course leading to a different degree would probably be established in the Fall. "If it is organized," he said, "It will be in answer to a demand on the part of the students to pursue a course in which science shall have more prominence than is ordinarily given in the classical course." (Trustees IV, 331).

(c.) **The adoption of the two degree system** took place as President Thompson anticipated (1893). Under the new arrangement, however it was still possible to secure the B. A. degree without studying Greek, inasmuch as two parallel courses, one with Greek and one without, led to the B. A., while a single course was outlined for the B. S. "The Greek question" was probably the most fundamental issue in the whole development of the differentiation of degrees. Both President Warfield and President Thompson made it a special point in the description of the course of study in the catalogue, to recommend to students that they do not omit Greek. At no time, however, after the reopening of the University in 1885, was Greek required for the B. A. degree. The new Bachelor of Science course did not prove to be particularly popular, having one or two graduates a year compared to ten to fifteen in the B. A. courses.

(d.) **The abolishing of the B. S. degree in 1901**, was reported by President Tappan as the work of a joint committee of five members of the Board of Trustees and five members of the Faculty. (Trustees V, p. 4). Under the new arrangement it became possible to secure the B. A. degree without any college Greek or Latin and this has continued to be the case to the present day, the only required classical element in the course leading to this degree being the two years of entrance Latin.

2. QUANTITY OF PRESCRIBED AND ELECTIVE STUDIES.

The quantity of prescribed and elective studies will be considered from the following points of view: (a) as influenced by the number of departments maintained and instructors employed, (b) in connection with administrative devices to control election of studies and (c) as to the per cent of prescribed studies and free electives at various times.

(a) It is important to remember that one factor that prevented the University before 1873 from offering more elective

work was that *it did not have enough instructors to do so.* What five or six instructors and five or six groups of students (four college classes and one or two sub-freshman classes), all of the time of the instructors was consumed in giving required courses. After the University was completely reorganized in 1888, it employed nine instructors namely, in Philosophy, Greek, Latin, Mathematics, English, Physical Sciences, Biological Science, History, Modern Language. To keep these instructors busy it was practically necessary to offer elective courses, as the classes were too small to justify dividing them for the same work. Moreover, these instructors undoubtedly preferred giving small elective courses in connection with which they could carry forward their own studies, to repeating elementary courses with several groups of students. To-day there exists such a multiplicity of courses that it would take a student over fourteen years to complete the 229 year hours of varied courses given in 1909-10.

(b) *Administrative devices to direct the student's election* of studies have assumed various forms. They have aimed to secure two results; first, to provide that the student shall take a sufficiently varied course to come in touch with the typical lines of study,—vernacular, foreign tongues, mathematics, science, history, etc., and second, to require him to elect a considerable amount of work in some one subject or in related subjects. Under President Warfield in 1888, to secure the first aim certain studies were definitely prescribed, while to provide for “concentration”, the Junior and Senior electives were arranged in five groups, historical, linguistic, mathematical, physical-scientific, biological-scientific. Under President Thompson in 1892, this group arrangement was abolished and three parallel courses A, B and C arranged. This “course” system continued through President Tappan’s administration. As a rule each course required some work in Sciences and Foreign Languages, (the amount and kind varying with the course), and in addition to this a “taste” of every other department in the University. In the first year of President Benton’s administration, (Catalogue 1902-3) the system of “parallel courses” was abolished, and the system of “majors and minors” introduced requiring the student to spend three years in the study of one elected subject, and two years in another related subject. For the year 1904-5 a new phraseology was adopted, the student’s major and minor electives being designated as his “group electives.”

(c) It is difficult to formulate a simple statement of *the percent of required and elective studies at different times*. This difficulty is due to the variation in the restrictions placed on election. It may be instructive, however, to divide the courses of study into two parts; first, the quantity of named or designated courses or lines of work, and second the quantity of unnamed or undesignated studies regardless of the restrictions placed on the choice of such studies. These quantities will be determined for certain typical periods.

Course of study for 1885-6. Approximately 85% of the studies were designated and 15% could be chosen by the student. This estimate is based on the fact that a Senior could elect two courses out of five studied, and a Junior could elect one course out of five. The studies of the Freshman and Sophomore years were prescribed.

Course of study for 1888-9. Approximately 75% of the studies were designated and 25% elective. This estimate is based on President Warfield's statement that one-half of the Junior and Senior studies were elective, all Sophomore and Freshman studies being required. (Catalogue 1888-9).

Course of study for 1892-3. Approximately 60% designated and 40% to be chosen. This calculation is based on these facts; all Senior work was elective, about 5 hours of Junior work prescribed, and all Sophomore and Freshman studies prescribed. This was under President Thompson. Practically the same ratio prevailed in 1899-1900 during President Tappan's administration.

Course of study for 1902-3. Approximately 43% designated or prescribed and 57% to be chosen, the choice restricted only by the major and minor requirement. This calculation is based on the list of required studies given in the catalogue. This included 51 term hours plus an average of three years or 27 term hours of foreign languages. The per cent is calculated on 180 term hours. This course was adopted during the first year of President Benton's administration and represents the recent situation, the ratio for 1904-5 and 1909-10 being practically the same.

	PRESCRIBED	ELECTIVE
1885-6	85%	15%
1888-9	75	25
1892-3	60	40
1902-3	43	57

The figures show a steady increase in the amount of election permitted. By 1902-3 the amount of absolutely free choice had increased from 15% to 40% in addition to which the student had the choice of from three to six arranged courses or groups. The great increase in 1902-3 from 40% to 57% of election was caused by abolishing the parallel course system and making the student's specialization a matter of his own choosing and arranging.

IV. CHANGES IN THE CONTENT OF THE CURRICULUM.

1. GENERAL CONTRAST OF OLD AND NEW.

It is difficult to formulate a summary statement of the changes in the content of the curriculum at Miami that would be instructive or interesting. Nevertheless, a brief comparison of the old and the modern curricula will be given. In making this comparison it is important to keep in mind that other than purely educational considerations confined the old curriculum to its narrow limits. Even if the trustees and faculty had desired to introduce innovations, they were distinctly limited by the lack of funds and the lack of instructors competent to teach the newer subjects. This will be illustrated at length in the section on the teaching of modern languages.

In contrasting the narrow curriculum required for the A. B. degree before 1850 and the enriched curriculum of the present day, it is important also to keep in mind the similar contrast in the prevailing conceptions of education. The old curriculum was designed for a select class of students preparing to be ministers, lawyers, teachers or physicians. In addition to this professional aim the dominant aims were "the discipline of the mental faculties" and culture; and the culture with which the teachers were most familiar, was the literature and civilization of antiquity, not modern literature or modern history. The college of recent years has not been primarily a training school for ministers and lawyers, but for men and women for all walks of life; its aim has not been "the discipline of the mental faculties" but it has emphasized very definitely the content value of the subjects as they give students an appreciative grasp and control of the life around them; and the culture that its professors have known and imparted to their students has been largely the culture of the modern age.

Let us examine the old curriculum in the light of these statements. The curriculum of 1844, the last year of President Junkin's administration will serve as an example. It as was follows:

Latin language and literature	4 years	
Greek	"	"
Mathematics	2½ "	(Algebra, Geometry, Trigonometry, Analytics, Calculus.)
Science	2 years	(Physics 1 year, Chemistry ½, Botany and Mineralogy and Geology ½, Astronomy?)
Philosophy	1½ years	
History	1½ "	
Political Economy	½ "	
English	½ "	

Latin, Greek and Mathematics constituted from two-thirds to three-fourths of this course of study. It was indeed a highly specialized course but it was definitely adapted to its aims. Latin and Greek, particularly the former, were useful studies for the professions, although not so much so as in the period of Renaissance. Mental and moral Philosophy and formal logic were also useful for ministers and lawyers although not as useful as they were in the Middle Ages. Mathematics was not particularly useful but was considered a fine mental discipline. Science, part of the History, Political Economy and English, representing cultural elements in the contemporary civilization, constituted about one-third of the course.

When the University was completely reorganized in 1888, it had nine professors, five of these representing the more modern, non-professional, non-disciplinary subjects, namely, English, Modern Foreign Languages, Physics and Chemistry, Biology, History and Political Economy. The other four, Greek, Latin, Mathematic and Philosophy, representing the elements which had been dominant in the old curriculum, now constituted less than half of the teaching staff. At the present time (1909) these four subjects occupy the time of five instructors out of a total teaching staff in the Liberal Arts College of over thirty. Thus the subjects which constituted about 65% of the teaching activity

in 1840, and about 45% in 1888, now constitute about 16%.

It is not worth while to follow this development in detail, but the history of the teaching of a few of the subjects will be discussed.

2. DEVELOPMENT OF THE TEACHING OF MODERN LANGUAGES

In considering the history of the teaching of special subjects at Miami, three departments are of peculiar interest. These are the departments of modern languages, of science and of Greek.

The problem of providing instruction in the modern languages engaged the attention of the Board of Trustees more than any other phase of the educational activity of the institution. The one big issue in the constitution of the course of study down to 1873 was the place of the modern languages. Year after year the minutes of the Board bear evidence of this fact. In view of the importance of this subject the efforts of the University to provide modern language instruction will be described at length. The following outline indicates the principal stages in the development.

(a.) 1826-1835. Half-hearted endeavors made to provide modern language instruction. Abandoned in 1835, President Bishop asserting it to be "a natural and moral impossibility," to teach modern languages successfully to college classes.

(b.) 1835-1841. No instruction attempted.

(c.) 1841-1849. Favored by Presidents Junkin and Macmaster but not successfully introduced.

(d.) 1850-1860. Serious endeavor to provide liberal instruction. Again a failure. Conflicting factions in the Board of Trustees. Controversy with President Hall.

(e.) 1861-1873. Private lessons and other desultory instruction; some regular instruction by Professor Hepburn.

(f.) 1885-1898. Successful instruction by a regular full professor.

(g.) 1898. Department divided, two full professors.

(a) 1826-1835. Modern language instruction attempted, but abandoned as a "natural and moral impossibility."

No teacher of modern languages is named in the first catalogue of Miami issued in July 1826 nor is any modern language contained in the regular course of study for the A. B. degree. But under the description of the English Scientific Department the following

statement occurs: "It is intended to have some of the modern languages taught in this department." In September of the same year (1826) the Board of Trustees passed a resolution authorizing the President to "employ such a person as he may think qualified to teach the French and Spanish Languages in the University. Provided, it is not at a salary of more than one hundred and fifty dollars per annum." (Trustees I, p.180). President Bishop had been elected at a salary of \$1,000.00 and the salary of the tutor of classical languages set at \$500.00. There is no evidence that the President found such an instructor for the year 1826-1827 and in Sept. 1827 the resolution of the Board was repealed. (Trustees I, p.194).

Notwithstanding this repeal, in the following November 1827, Mr. Robert W. Schenck of the class of 1827 was employed and taught French until 1830. In addition Mr. Isaac N. Shepherd of the Senior class "introduced his classmates to the Spanish language". (Pres. Bishop's report to Trustees I, p.250).

Beginning with 1829, that is, two years after its introduction, French became a required part of the Junior studies for the baccalaureate degree (Catalogue 1829) and in 1831 Spanish was added to the studies required for a diploma. In 1833 the catalogue stated that "French, Spanish, German and Italian are regularly taught and two of them at least must be studied to obtain a diploma." Teachers were secured as in the beginning by employing some member of the Senior class, some resident graduate or a tutor at a small sum. During a portion of the period preceding 1834 the instruction was given by Professor Scott, who also taught Natural Philosophy, Chemistry, Astronomy and Political Economy.

The year 1835 marks the close of the first period of modern language teaching in Miami. It was admitted to be a failure and upon the recommendation of President Bishop, the Board of Trustees resolved that no further appropriations be made for the teaching of modern languages until unanimously recommended by the Faculty and approved by the Board. (Trustees I, 336). The reasons for this action are set forth at a great length in the report of President Bishop, (Sept. 1835, Trustees I, 324), as follows: "Some time in February last (1835) Mr. Eckert from Paris and only a few months in the United States came to Oxford with an introduction and recommendation from Mr. Reily of

Hamilton and offered his services as a teacher of Modern Languages particularly the French. From the many experiments which have been made here and from a greater number which I had witnessed while connected with Transylvania University, I freely and frankly expressed to Mr. Eckert on our very first interview that I could not give him any encouragement."

Mr. Eckert and some others "connected with the college" persisted, however, and he was finally given an opportunity to instruct the Junior class four hours a week, studying at the same time as a resident graduate. For a time he "succeeded remarkably well" in his instruction during the first session of the year and was permitted to continue into the second session and to begin German with the Sophomore class. But it was not a success. The Sophomore class failed to maintain an interest in the subject, and many dropped out. The Junior class continued with some vigor for a month and then began to flag. President Bishop said "I have no doubts of the capacity and fidelity of Mr. Eckert. He did, I am persuaded, his best, but he failed from the single fact that an interest in the study of a modern language cannot be kept up with any class more than three or four months at one time. A single individual who has some definite object of a practical nature immediately in view may study a modern language with vigor till he is completely master of it. But to make a class in college do so, is I believe both a natural and a moral impossibility."

Thus ended the first experiment in teaching modern languages in Miami University. It had extended over a period of eight years and was an acknowledged failure. The reasons for the failure are evident. Prof. Brandon summarizes them as follows: (1) The subjects were introduced without any system. (2) They enjoyed no prestige. (3) Only the elements were taught. (4) The teachers were poorly prepared, had had no experience or permanent tenure. (5) Rigorous administration was lacking, students being allowed to drop the modern languages as they would not have been permitted to drop the older subjects.

That such a failure was not inherent in the subject might have been known in that day from an observation of the efforts of George Ticknor in the department of French and Spanish at Harvard, from 1825 to 1835. The work was entirely elective but students were required to continue after election and were

advanced as rapidly as their ability justified. With three or four tutors under him and an annual average of 160 students in the department the work was a perfect success. As a rule, however, failure followed the attempts to introduce the modern languages in colleges in those days, as President Bishop said. At Amherst about 1828 a native Frenchman was employed to give instruction in French. He was so incapable of preserving discipline that it was necessary for another member of the faculty to be stationed in the room for this purpose.

There is no record of the reasons for undertaking modern languages at Miami at this time. It may have been simply imitative as many other colleges were trying the same experiment.

(b) 1835-1841. No instruction attempted.

There is no mention of modern language instruction during the later years of President Bishop's administration.

(c) (1841-1849.) Favored by Presidents Junkin and Macmaster, but not successfully introduced.

President Junkin took charge of Miami in April, 1841. In August the students petitioned the Board of Trustees to create a professorship of modern languages. The board adopted a resolution to employ a Mr. Malone for this purpose at \$200.00 a year, other professors receiving \$700.00 to \$800.00. Mr. Malone's name does not appear in the catalogues but in 1842 President Junkin reported that "Mr Malone will leave in August—he is not able to get along." (Trustees II 4.) In general, the catalogues indicate that no regular instructor was employed during this period. In 1842, 1843, 1844, it is stated that instruction may be had in some of the Romance languages at the student's own expense. Although no adequate instruction was provided, there are a number of records indicating an increasing appreciation of the importance of the modern languages. These records are especially important in stating the reasons for desiring such instructions.

In 1844,, President Junkin called the attention of the board to the rapidly increasing necessity of a professorship of the modern languages. He said, "Scarcely in any of our river cities, can a general business man get along without a knowledge of German and often French, and for the South and West, Spanish is greatly important. These three languages ought to be taught in the University." (Trustees II, p. 85.) "It is exceedingly

important that German be taught and also to have the language without the peril of transcendental nonsense and infidelity mixed with it." (Trustees II, p.9.) While there were many applicants there were few suitable teachers, and he preferred a German Lutheran who should be a good disciplinarian.

President Macmaster in his report for 1847 emphasized the importance of German and French "without which in the present condition of our country and the world, the education of young men must be regarded as very incomplete." He suggested that Professor Moffatt who was a good French and German scholar undertake such instruction but the Board did not authorize it. (Trustees II, 251).

The attitude of some of the trustees was expressed by Mr. Crume, M. D., member from Preble Co., in a resolution which was not adopted. The resolution called for an appropriation of \$100.00 for instruction in German, which was made necessary by "continually increasing emigration of a German population into the United States, and particularly into the Mississippi Valley." (Trustees II, 362).

These records express very clearly the social and utilitarian reasons for desiring modern language instruction at Miami.

(d) 1850-1860. Serious endeavor to provide adequate instruction in modern languages. Again a failure.

This is the most exciting period in the development of modern language instruction at Miami. The complications involved are suggested by the following outline:

1850-1852. French and German taught by Latin and Greek professors.

1851-1852. Professorships in German and French created. Made elective in place of Greek for A. B. degree.

1853-1860. Regular modern language instructor employed; again unsuccessful.

1858. Controversy over situation in Board of Trustees.

1860. President Hall reviewed the situation in self defence.

1860. Professorship of Modern Languages abolished.

President Anderson assumed charge at Miami in 1849. In 1850 Professor Moffatt of the Latin department reported that he had instructed the Senior Class in French, two or three hours a week. Upon what authority this was done does not appear. (Trustees II, 407).

In 1851 the Board of Trustees created professorships of Hebrew, French and German and arranged to have the instruction in French given temporarily by Moffatt, Professor of Latin, and the German by Elliott, Professor of Greek with no additional pay. (Trustees II, 485).

In 1852, a resolution was presented by Mr. Anderson, and adopted by the Board declaring the study of Greek no longer necessary for the A. B. degree, and allowing equal proficiency in German and French to be substituted. At the same meeting Mr. Hruby was appointed instructor in German and French. (Trustees II, 515).

The students availed themselves of the opportunity and in June 1853, President Anderson reported Professor Hruby's classes as doing very well but being too large. (Trustees III, 52). In 1854 there were three classes in French and three in German with a total enrollment of 112.

About Christmas 1854, President Hall came to Miami. During the next two years the Board appointed several committees to consider the course of study but no special action was taken. In 1856 they resolved that after a student had elected a modern language he must adhere to it; the faculty to keep a record of these elections. (Trustees III, 141). In 1858 the Board expressed its dissatisfaction at the failure of the faculty to show such records. (Trustees III, 185).

In 1857 a special committee was appointed by the Board to report on the efficiency of the modern language department. They reported that the professor was unable to impart knowledge and maintain discipline. (Trustees III, 168-170). The situation was relieved by the professor resigning.

The new professor (Christin) in his first report 1858 called attention to the difficulty of conducting such mixed classes, containing students of all grades from sub-Freshman and Normals to Seniors. (Trustees III, 173).

The situation continuing unsatisfactory, a special committee of the Board presented majority and minority reports. (1858, Trustees III, 191). The committee concerned itself with a statement in the President's report suggesting the necessity of examining the whole situation.

The majority of the committee believed Mr. Christin was suffering from the mistakes of his predecessor and would

eventually make a brilliant success. They suggested that the elections of students should be approved by their parents. Concerning the importance of German they were strongly convinced, and called attention to the fact that one-fourth of the population of Cincinnati was German from which they should secure many students through the new railroad connection.

"As to French, it is the universal language. It takes the traveler over the globe, and it is the medium of communication between the governments of Europe, as well as the repository of the greatest treasures of art and science." "It gives our college course a decided advantage over those rigid formalists and fossils, who adhere, at ruinous cost, to the ancient curriculum of the Greek and Latin classics."

The majority report given above was not adopted by the Board. It adopted the minority report which follows, by a vote of 11 to 4.

The minority report opposed the modern languages because of the failure of the department in practice, because elected as snap courses, and because there was no real demand for them. It abolished the election in place of Greek but required proficiency in one modern language for graduation. (Trustees III, 191-194).

After a year's trial of this scheme it was found to be unsatisfactory as a result of requiring a modern language of the lower classes in addition to Greek. Again, (July 1859) the select Committee on Modern Languages presented majority and minority reports. The majority report reiterated the positions stated in the previous years and cast reflections on the President and faculty. The minority report reduced the study of a modern language to one year's study by Seniors. This report was adopted. (Trustees III, 227).

The reflections cast upon the President and faculty by the majority report were not to go unquestioned. The next year (July 1860), President Hall answered them at great length. He dealt with the whole history of modern languages at Miami and quoted President Bishop's statement that it was "a natural and moral impossibility" to teach them successfully. He submitted statements from recent graduates testifying to the inefficiency of the previous teacher. (Trustees III, 239-245).

As a result of the communication, a select committee, from the Board on the condition of the University, recommended that the Professorship of modern language be abolished; that provision

for such teaching be referred to the faculty, and that a special fee of five dollars be charged those studying the modern languages. This report was adopted. (Trustees III, 258).

Thus, in the year 1860, we find the conditions very similar to those in 1835 when the teaching of modern languages was first abolished. If we compare the situation from 1850 to 1860 with that from 1827 to 1835 we find this difference; throughout the development from 1850 to 1860 there was a clear emphasis on the social and utilitarian value of the modern languages which was not denied by the opposition, but which we did not find expressed in 1827-1835. In both cases the reason for abolishing the study was failure in teaching and administration.

(c.) 1861-1873. Private lessons and other irregular instruction.

The action of the board of Trustees of 1860 left the provision of modern language instruction to the faculty to manage, with the understanding that special fees were to be charged.

In 1861 President Stanton reported that this had been done by special individuals whose names appear in the catalogue. The fee had been five dollars for each student. Only such provisions as this existed until 1868.

In 1868 Professor Hepburn was elected to the new chair of English Language and Literature and the Board stipulated that he was to teach modern languages so far as it would not interfere with his other work. (Trustees III, 430.) In September (1868) the Faculty voted to require German of the Sophomore class both scientific and classical and of Junior scientific students. Time was gotten for the Junior class by the professors of Greek, Latin, Natural Science and English Literature alternating in giving up two hours a week of their Junior class time. Professor Hepburn undertook the instruction in German and continued it until the closing of the University in 1873. Such provision as existed for instruction in French was of a private character, Professor Beaugureau, of Oxford College giving private lessons for some time.

(b) Efficient instruction since 1885. In 1884 when the Board was considering opening the University, its resolution to that effect provided for the modern languages and a professor was elected in 1885. In the course of study adopted in 1888 students were allowed to substitute French and German in place

of Greek for the A. B., thus reproducing the conditions of 1852; but there was no longer any question of efficiency in instruction, and the "natural and moral impossibility" of interesting students in the subjects, to which President Bishop had attributed the failure of the early teaching and disappeared. In 1898 the department was divided and separate professors of French and German employed.

3. DEVELOPMENT OF THE TEACHING OF SCIENCE

In contrast with modern languages there seems to have been a settled policy from the beginning of the institution, to make liberal provision for the study of the sciences. Of the three professors constituting the original faculty, one devoted his time to instruction in Mathematics, Geography, Natural Philosophy, Astronomy and Political Economy. In 1832 a professor of Mathematics was appointed leaving Professor Scott in charge of Natural Philosophy, Chemistry and Astronomy and Political Economy. Usually all of the science work continued in the hands of one man down to the closing in 1873. Sometimes Astronomy was taught by the professor of Mathematics and Political Economy was usually taught by some other professor or the President. The professor of Science constituted about one-fifth of the teaching force.

Two professors, Scott (1828 to 1845) and Stoddard (1845-1870) filled all but seven of the forty-nine years of the first period of the University's life. To follow their work in detail would be to trace the history of scientific development during this period. These professors refer to this development from time to time in their reports to the Trustees, Professor Stoddard stating that he was constantly under the necessity of modifying his course to include new discoveries. In 1862 he said, "So extensive has the department become that it is difficult in the endeavor to embrace the whole, to avoid superficiality on the one hand, or on the other, by the attempt to condense, to avoid omitting or rendering obscure important subjects." (Trustees III, 291.)

It is difficult to determine what proportion of a student's course was devoted to the various sciences. The general impression that one gets is, that during the 30's. Natural Philosophy (Physics) received probably more than half the time devoted to the sciences, little attention being given to the Biological Sciences until the middle of the century. In his report for 1838, Professor

Scott gave a definite statement of his program, from which it would appear that the Juniors had one recitation a day for the year in Mechanical and Natural Philosophy (Physics) and the Seniors had one recitation per day through the year during which all the other sciences were studied, which are named on the program as Chemistry, Mineralogy and Geology the first half year, and Botany and general review of practical mechanics the second half year. The Seniors also attended two lectures a week illustrated with experiments, during the first half year. From such a course a student should have developed a good "book" knowledge of Physics but a very unsatisfactory smattering of the others.

We can compare with this 1838 statement, the 1864 report of Professor Stoddard which contains a statement of the number lectures he gave on various subjects paralleled with the number of given at Yale. (Trustees III, 345.)

Number of lectures delivered in 1864.
(According to Professor Stoddard).

	YALE	MIAMI		YALE	MIAMI
Chemistry	24	35	Physiology	0	12-15
Natural Philos.	38	36-40	Botany	0	10-12
			Geology	0	6

The increase in the proportion of other subjects than Physics after 1838 is evident. Chemistry in 1864 was almost on a par with Physics and the same condition was being approached in the Biology and Geology group, as far as lectures were concerned.

As we approach the 70's we find the materialistic tendencies resulting from the development of the Biological Sciences clearly realized. Professor Stoddard refers to this frequently in his reports. In 1866, he said, "The tendencies of natural science at the present time, as interpreted by many and taught by some, are, doubtless, to foster a gross materialism and to undermine confidence in that precious bullwark of all virtue, the Bible." (Trustees III, 383). And in his last report in 1870 occurs the following, "The lectures delivered to the Senior class on the "Relations of Mind to Matter" and of "Science to Revelation" are designed to counteract the crude materialism and conceited infidelity so common among a certain class of students, who have neither the intellect nor the heart to reach the high things of God in Science and Revelation." (Trustees III, 482).

When the University reopened in 1885 the science work was divided between a Professor of Physics and Chemistry and a Professor of Geology and Botany. Separate departments of Physics and Chemistry were established in 1903. In 1906 the Biological Sciences were divided between two Professorships one of Zoology and the other Botany and Bacteriology.

The records of the Board of Trustees contained evidence of the insatiable desires of the professors of science for additional apparatus and facilities, and of the apparent willingness of the President and Trustees to do all in their power to satisfy such desires. Thus in 1825 the Board appropriated \$800.00 for the purchase of "philosophical and chemical apparatus." In 1837 the records contain the statement "that Miami is behind Yale College only, in Experimental illustrations in Chemistry." (Trustees I, 392). This claim was made only a few months after Professor Scott had complained that in scientific equipment Miami was not up to other colleges which were inferior in other respects. (Trustees I, 384). The desired end was obtained and the Board appropriated \$1,500 for a laboratory building. (1837. Trustees I, 397). This building was used until 1873.

Professors Scott and Stoddard spent much time constructing apparatus, for which they are often given recognition in the President's report. Thus Professor Stoddard in his first report 1845 describes the construction at Miami of the following:

	Value.	Cost.
An Electrical Machine.....	\$200.00	\$70.00
10 ft. reflecting telescope,
Galvanic battery (Calorimeter)	60.00	35.00
12 jar electric battery	35.00	15.00
	(Trustees II, 177).	

The famous Geological collection owned by Mr. Christy was bought for \$2,202.00 in 1849 after several years of negotiation.

The apparatus acquired was used at first exclusively in illustrating lectures. There is no evidence that regular laboratory courses for students were given before 1870. The only hint that students were admitted to do laboratory work is the statement by Professor Stoddard in 1862 that "the preparation of experiments is always open to the class." (Trustees III, 292).

Professor Osborn (1870-1873) provided definite laboratory work for students. In the description of the Junior course in

Chemistry he says "Students desiring to enter into the actual work of Analytic Chemistry, must join the working section, after application to the faculty." An interesting arrangement in the Physics and Biology courses is described in these words, "The class is divided into *working committees*, who serve in turn in this Department, during the whole year, as aids to the Professor in the Laboratory. They have charge of the apparatus, assist in the preparation of experiments", etc.

After the reopening of the University, laboratory work constituted a regular part of the advanced science courses but not of the beginning courses. As late as 1899 Professor Hughes commenting on the inadequate laboratory accommodations, criticized the practice, which prevailed at Miami, of giving Freshmen Chemistry without laboratory work. (Trustees IV, 622). This contrasts very strongly with the large part played by laboratory work in the introductory science courses given at Miami today.

4. THE GREEK QUESTION.

The "Greek Question", that is the question of maintaining Greek as a requirement for receiving the Bachelor of Arts degree, did not play as prominent a part in the development of the curriculum at Miami as it did at some other institutions. This was partly due to the rather peaceful development of the Bachelor of Science course in the sixties, and to the advances that other colleges made while Miami was closed from 1873 to 1885. Although this issue did not play as important a role as elsewhere, still at times it was very seriously debated. The facts will be briefly reviewed.

The first successful attack on Greek was in 1852, when Mr. Anderson of the Board of Trustees introduced a motion declaring Greek no longer necessary for the A. B. degree. The motion passed and for six years, students were permitted to substitute French and German for Greek, but the failure of the modern language instruction resulted in re-establishing the Greek requirement for the A. B. in 1858 and it remained until 1873.

The second successful attack on required Greek, was made in the Board of Trustees when the University was reorganized in substitution of German for Greek for the A. B. was permitted when the University reopened in 1885, and in 1888, the Faculty was instructed to prepare a course of study granting the A. B. to all graduates and allowing the substitution

of French and German for Greek. The attack on this system by President Warfield and the classical professors has been described. (See p.). It is interesting to note that the compromise course adopted in 1893 did not attain the aim that the "Greeks" desired. Although it re-established the B. S. degree for science students, it also established two "classical courses" both leading to the A. B., one containing Greek and the other not. The result was that the B. S. course was not popular and many students proceeded to the A. B. degree via the non-Greek course.

Presidents Warfield and Thompson tried to encourage students to take Greek by advising it in the catalogue with but fair success. In 1892, 16 out of a total of 58 college students studied Greek; in 1896, 25 out of a total of 84.

College credit for preparatory Greek was allowed by vote of the faculty in January 1901.

V. THE PREPARATORY DEPARTMENT.

The Grammar School or Preparatory Department consisted of a two year course from the opening of the University to 1873, except for a period of five or six years following 1845. In that year President Macmaster increased the preparatory course to three years, but after he left, it soon dropped to two. The Grammar School maintained by the University was the main source from which Freshmen came. Down to 1873 the two year course proved very satisfactory, the students completing it being better equipped than those prepared elsewhere.

When the University reopened, it established the Preparatory Department on the same basis but with less satisfactory results. In the early nineties the president and the classical professors complained regularly to the Board of Trustees that students prepared at Miami compared unfavorably with those prepared elsewhere and urged that the Preparatory Course be increased to three years. This was done in 1893.

For some time University entrance requirements continued to be three years of High School work or twelve entrance units, but in 1905 the number of units was increased to 15, thus practically requiring four years of High School work.

It is interesting to calculate how many acceptable entrance units were contained in the old two year preparatory course. In

1867 it included two years of Latin, $1\frac{2}{3}$ years of Greek, and one year of High School mathematics ($\frac{2}{3}$ of a year of Algebra and $\frac{1}{3}$ of a year of Geometry). To-day this work would be accepted as $4\frac{2}{3}$ entrance units. In addition to this the course included $\frac{1}{3}$ year of Ray's Higher Arithmetic, and one year of English grammar, which would not be accepted for entrance now. The Preparatory course of 1870 then, contained about one third of the entrance units required to-day.

OMISSIONS.

Many phases of the development of the curriculum at Miami have been consciously omitted, owing to lack of time and space. Some of these are:

Religious instruction—mentioned in the charter; always an important element, required Bible classes in early days, decline about 1870 according to Professor Bishop. (Trustees III, 545, Catalogue 1841).

English literature — David Swing's proposed endowment (1864); Professor Hepburn appointed to first chair 1868. (Trustees III, 350, 354, 431).

History, and Social Sciences—President Bishop's chair 1841, Warfield 1888. (Trustees I, 491; II, 139, IV, 138).

Attempted establishment of professional departments of law and medicine, 1827, 1845, 1866. (Trustees I, 182, 183, 184, 202, II, 162, III, 399).

Military training, 1869. (Trustees III, 483.)

Manual labor scheme considered, 1830. (Trustees I, 243).

Mutual instruction or Lancasterian system used in Preparatory and Freshman and Sophomore classes 1827. (Catalogue 1827.)

Primary school maintained, 1831, employing "one Pestalozzian teacher" one "writing master" and four "teachers of arithmetic." (Catalogue 1831.)



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